

PROTOTYPE DESIGN COLLECTION

SERIES 2



Prototype Design Collection

Series 2



AHMAD NAJMIE RUSLI

**UNIVERSITI TEKNOLOGI MARA CAWANGAN JOHOR
KAMPUS PASIR GUDANG**

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FOREWORD

This digital book on Prototype Design Collection Series 2 (PDC Series 2) is published as a reference design for mechanical engineering students. The designs presented experience a few phases of analysis before fabrication of prototype. Each project summarises the project description, prototype, figures, and design parameter. The design products vary in tools or equipment for household, workshop, entrepreneur, etc. Suggested material and detail of prototype dimension are also mentioned in this book.

It is hoped that this book will assist the students to have more ideas on innovation design products in the future.

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CHAPTER 98

Design and Fabrication of Motorized Food Packer

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PROJECT DESCRIPTION

Student nowadays sit at desks longer than they used to do something else. Either they do study in the morning at school or university or in the afternoons at home to do homework, to read, do handicrafts and to play games. No wonder that more and more students or children are complaining about their health problems, back pain, and muscle tension. Due to these problems, a height adjustable study table was fabricated. Hollow steels were cut and weld to produce table frame with two actuators inside the steels and chipboard was used as the tabletop. Minimum height for this table is 80cm and maximum height for this table can up to 1.2 meters. Therefore, a height adjustable table was successfully fabricated and can give numerous benefits to the users to prevent from backpain and others health problem. Most of Malaysian vendors prefer to use food plastics to pack up their customers foods as it is cheap and plentiful to buy everywhere. But as it requires tying unlike plastic and polystyrene food packs, it is very time consuming and troublesome. Not to forget, calculating customers' total purchases also contribute to these problems, which the main objective of this project is to eliminate these problems. A food plastic tying string is pulled out from a ready-made slot in the machine. The user only must load the food packaging to the machine and pull the plastic to tie the food quickly without spending a lot of time tying using the traditional way. The machine itself rely on the tying mechanism triggered by two components: weight and sensor. It is expected for this machine to tie (pack) the food when it exceeds set weight limit.

Keywords: *Tying, Food plastics, Sensor*

PROTOTYPE



DESIGN PARAMETER

